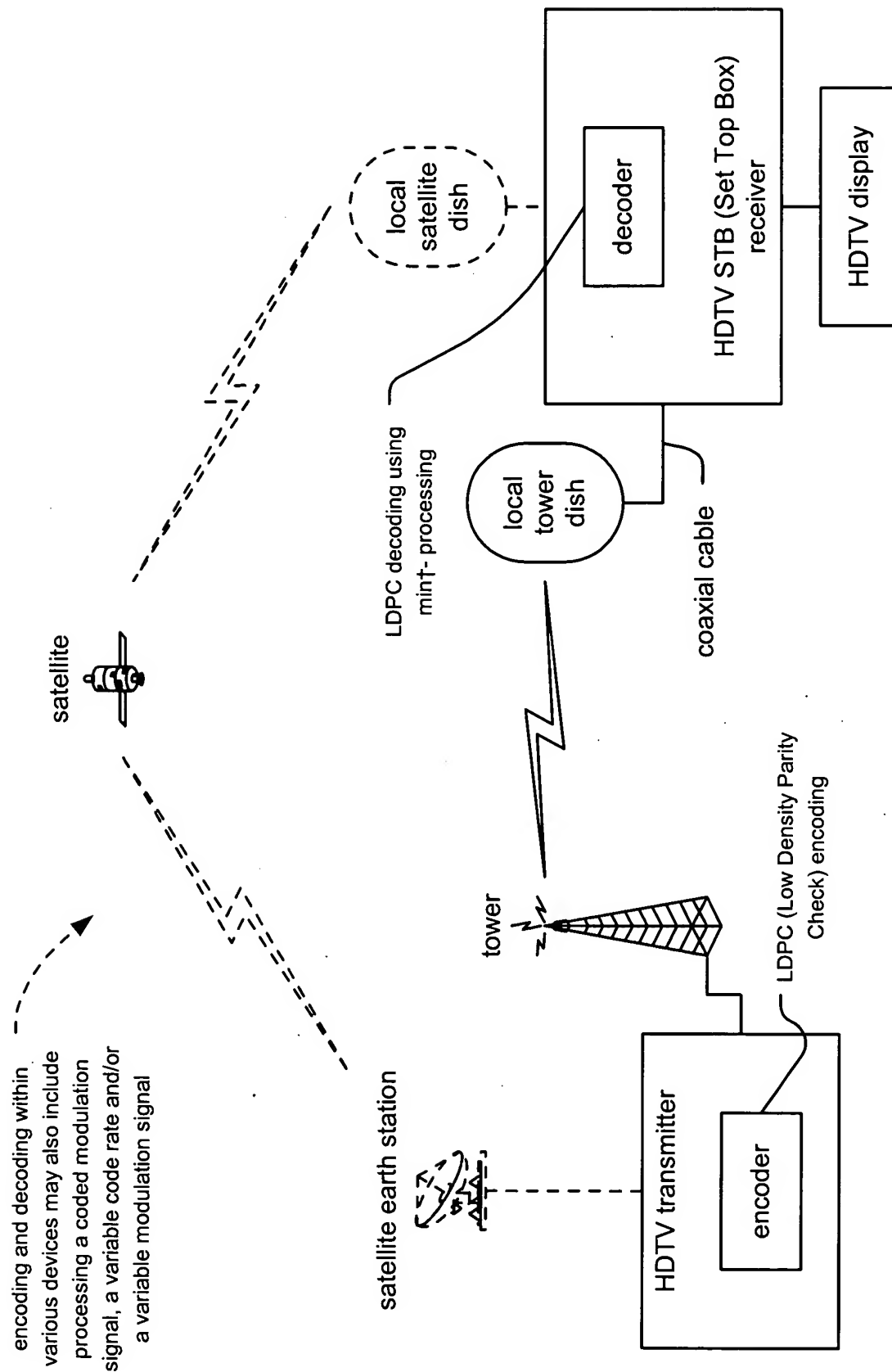


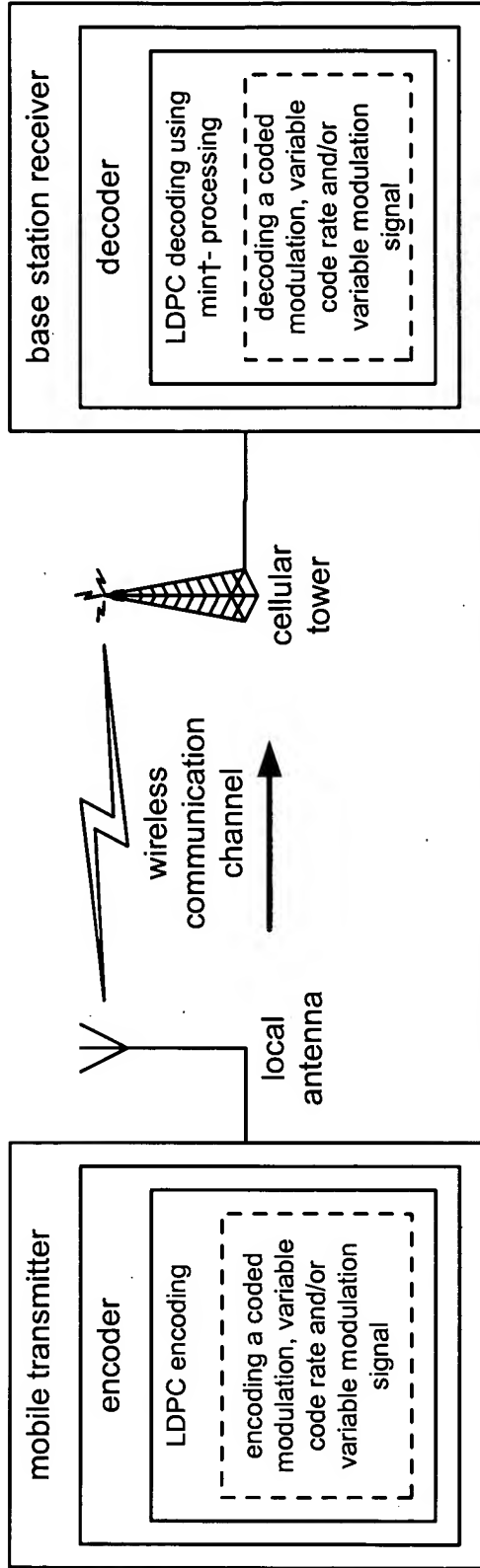
satellite communication system

Fig. 1



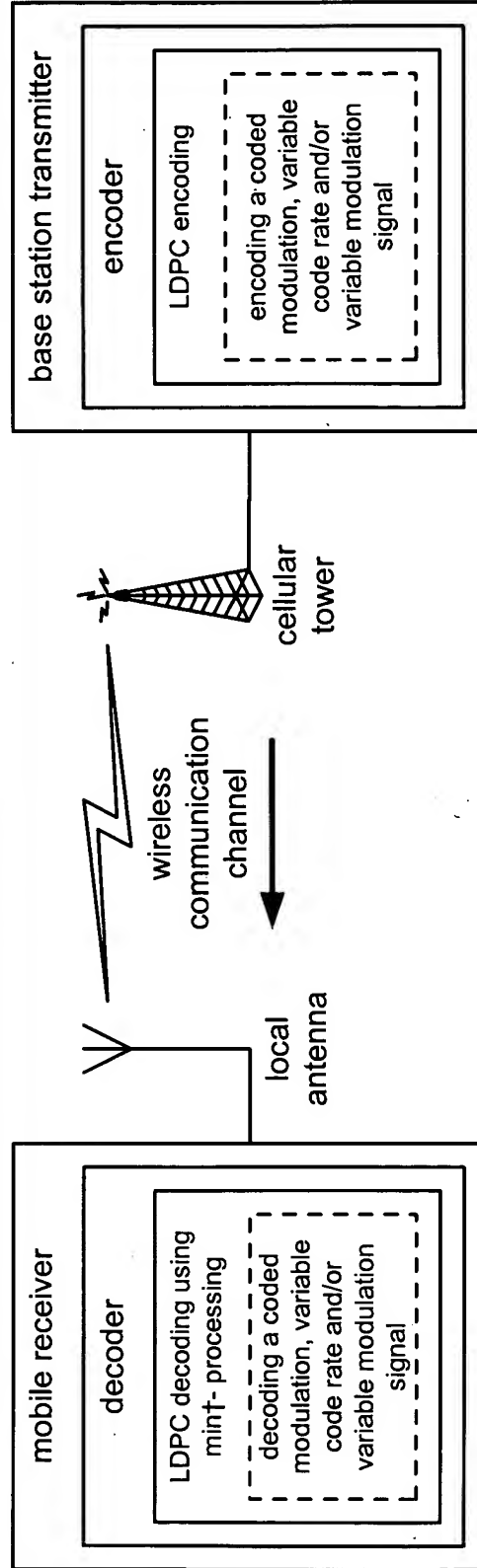
HDTV (High Definition Television) communication system

Fig. 2



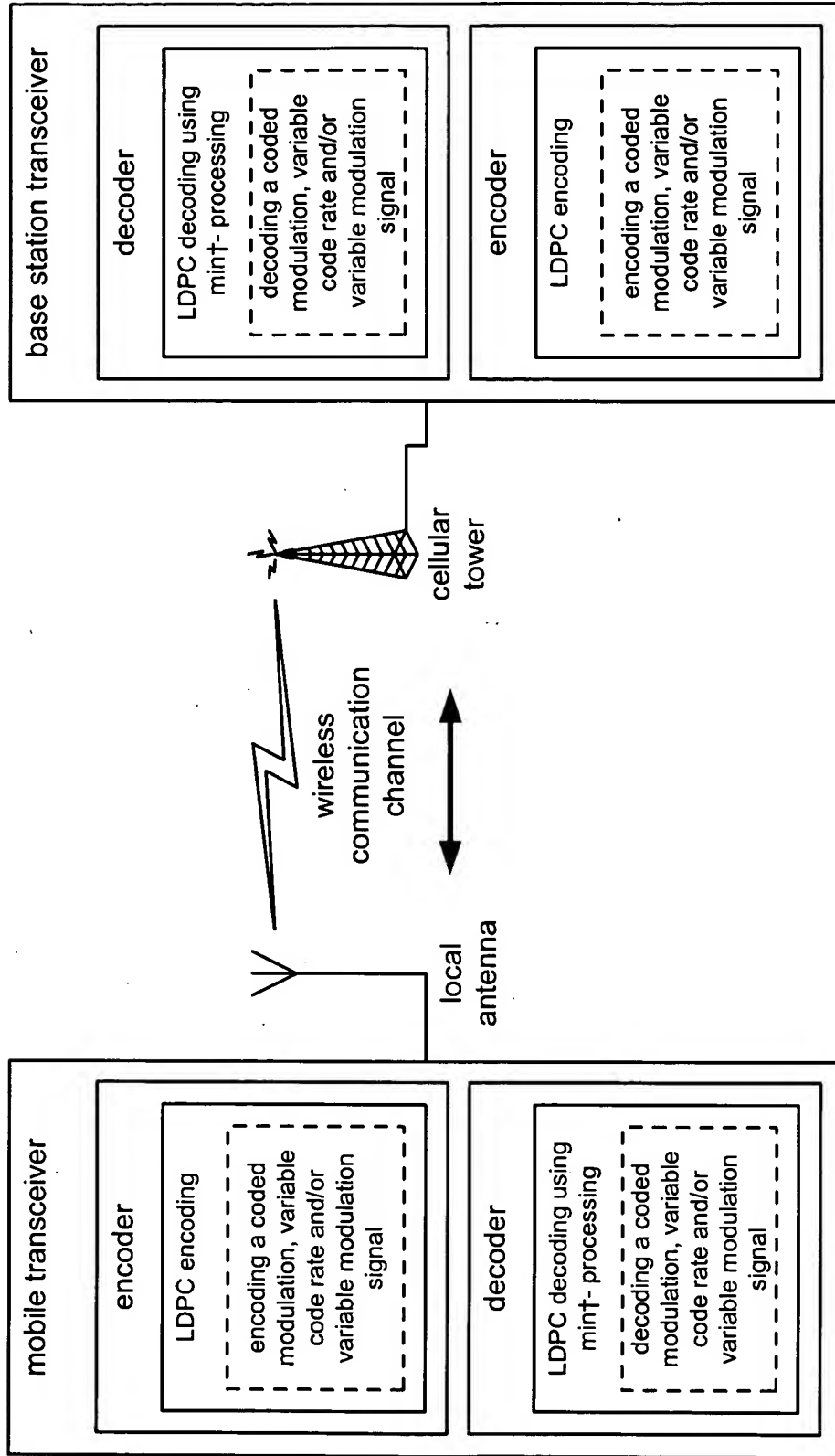
uni-directional cellular communication system

Fig. 3A



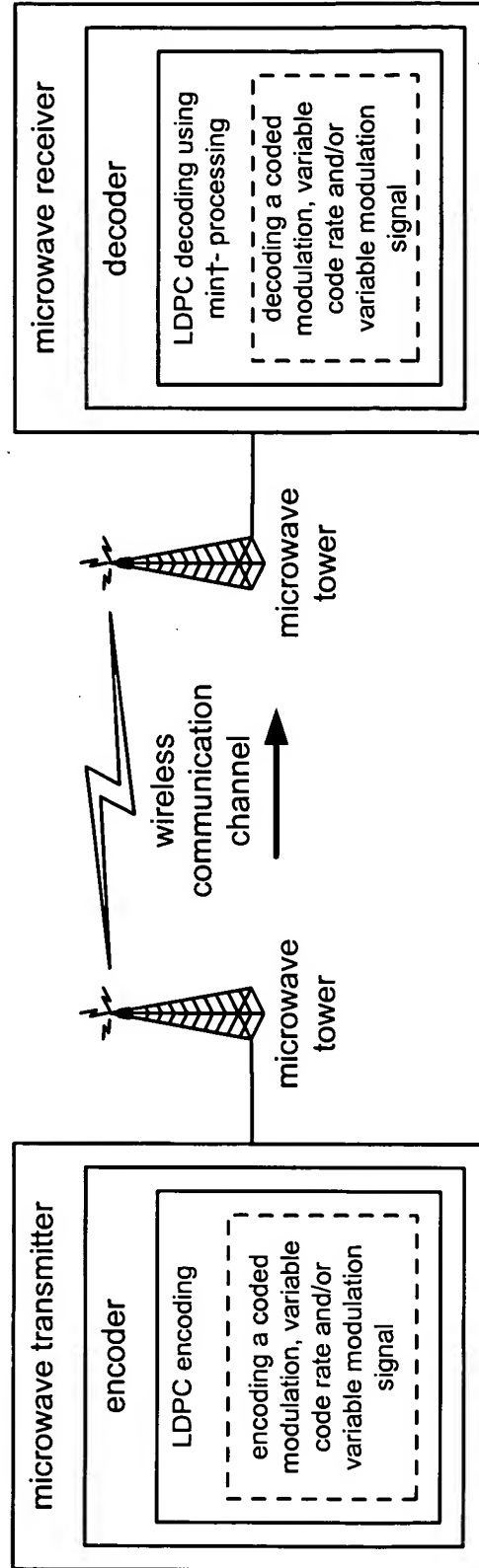
uni-directional cellular communication system

Fig. 3B

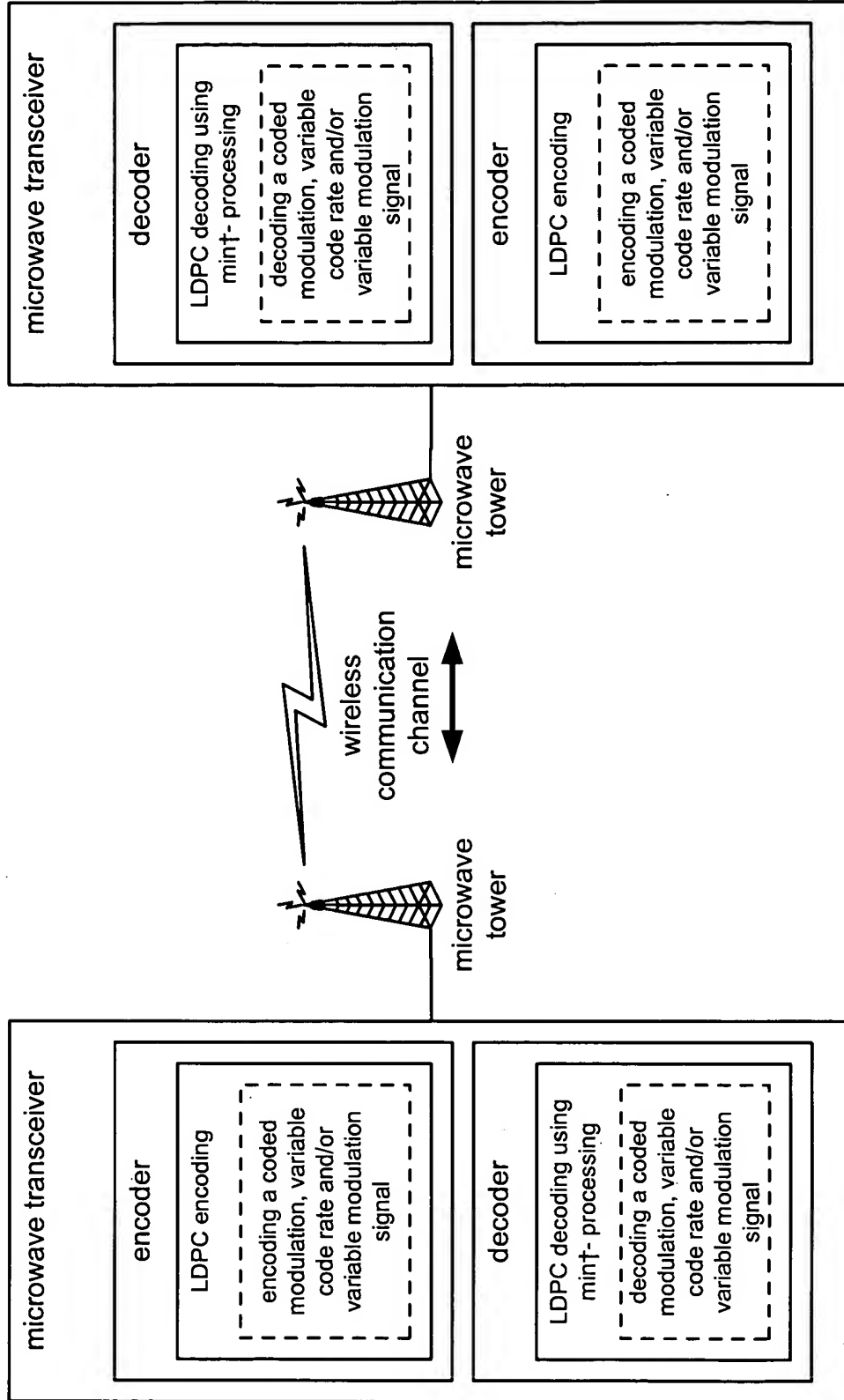


bi-directional cellular communication system

Fig. 4

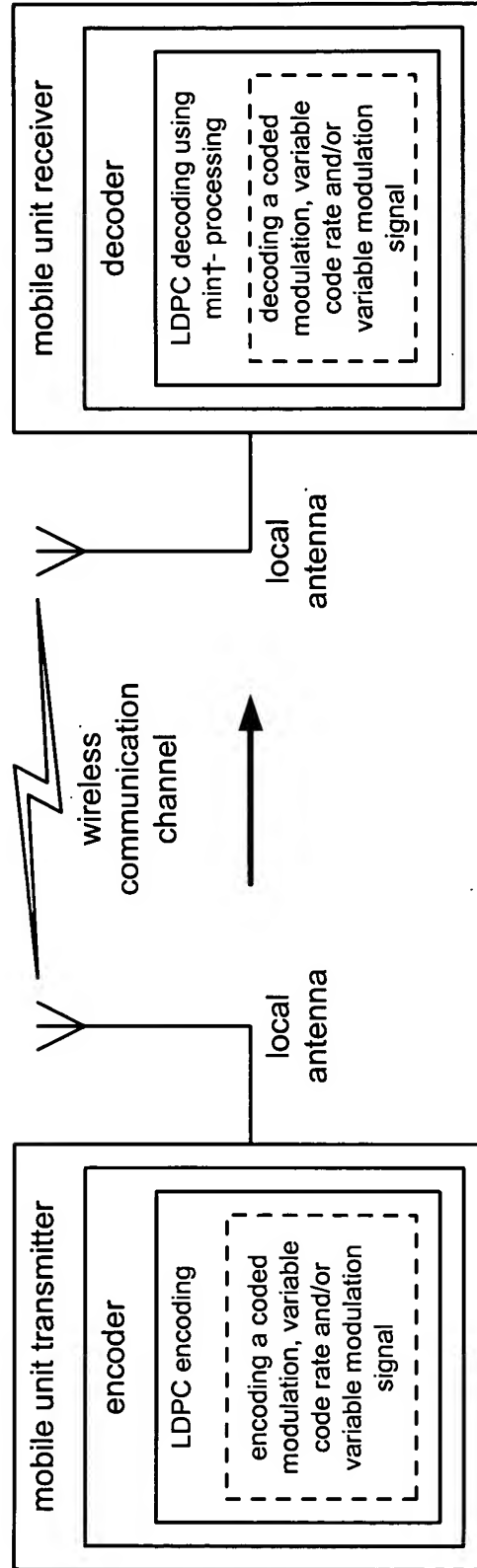


uni-directional microwave communication system
Fig. 5



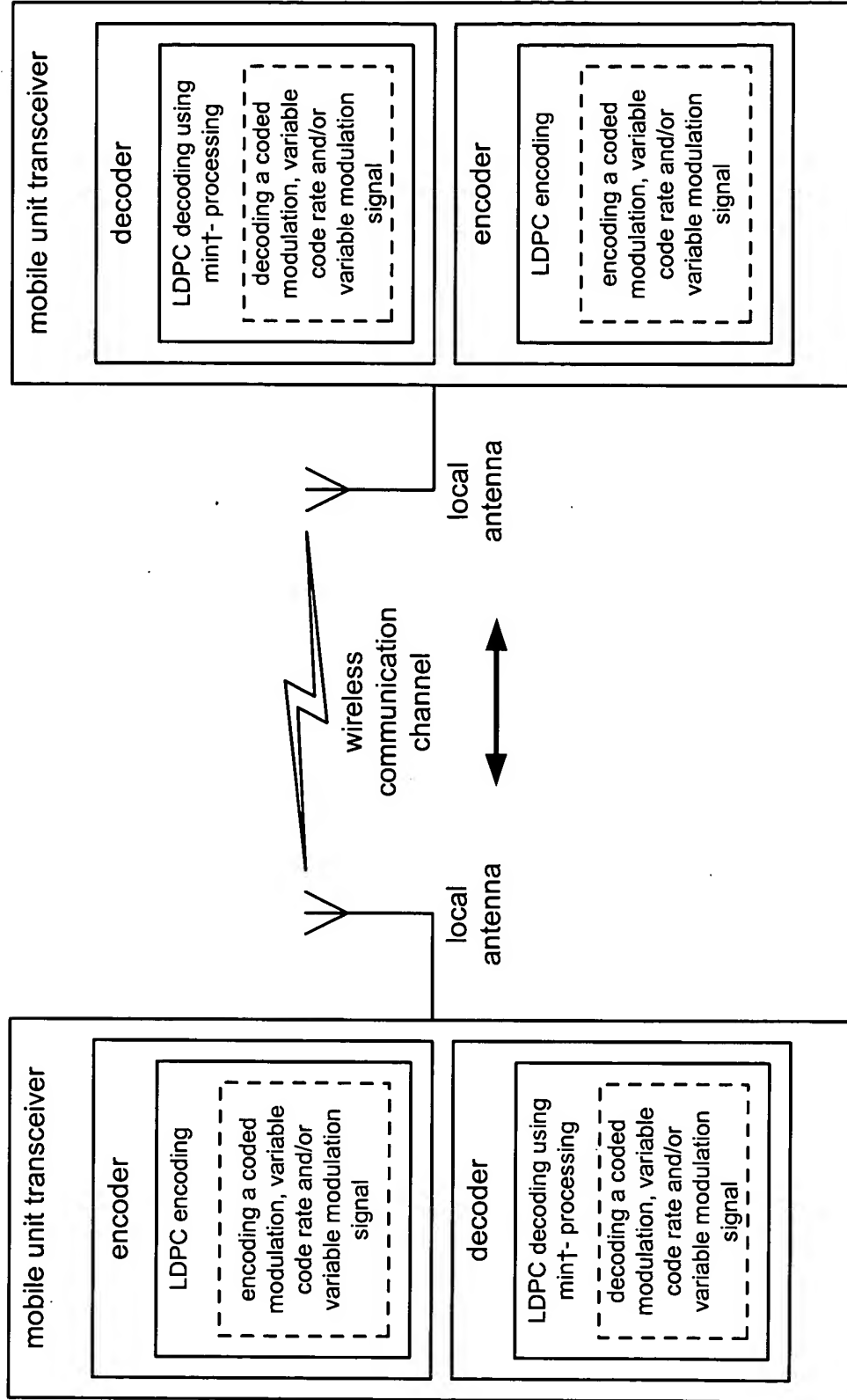
bi-directional microwave communication system

Fig. 6



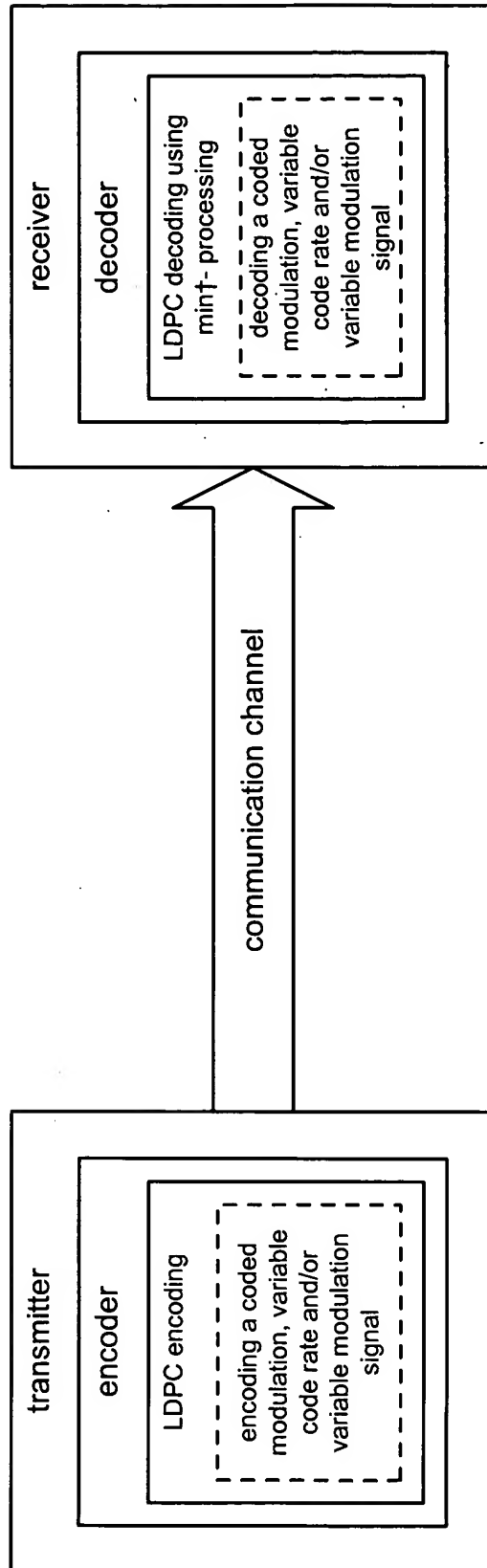
uni-directional point-to-point radio communication system

Fig. 7

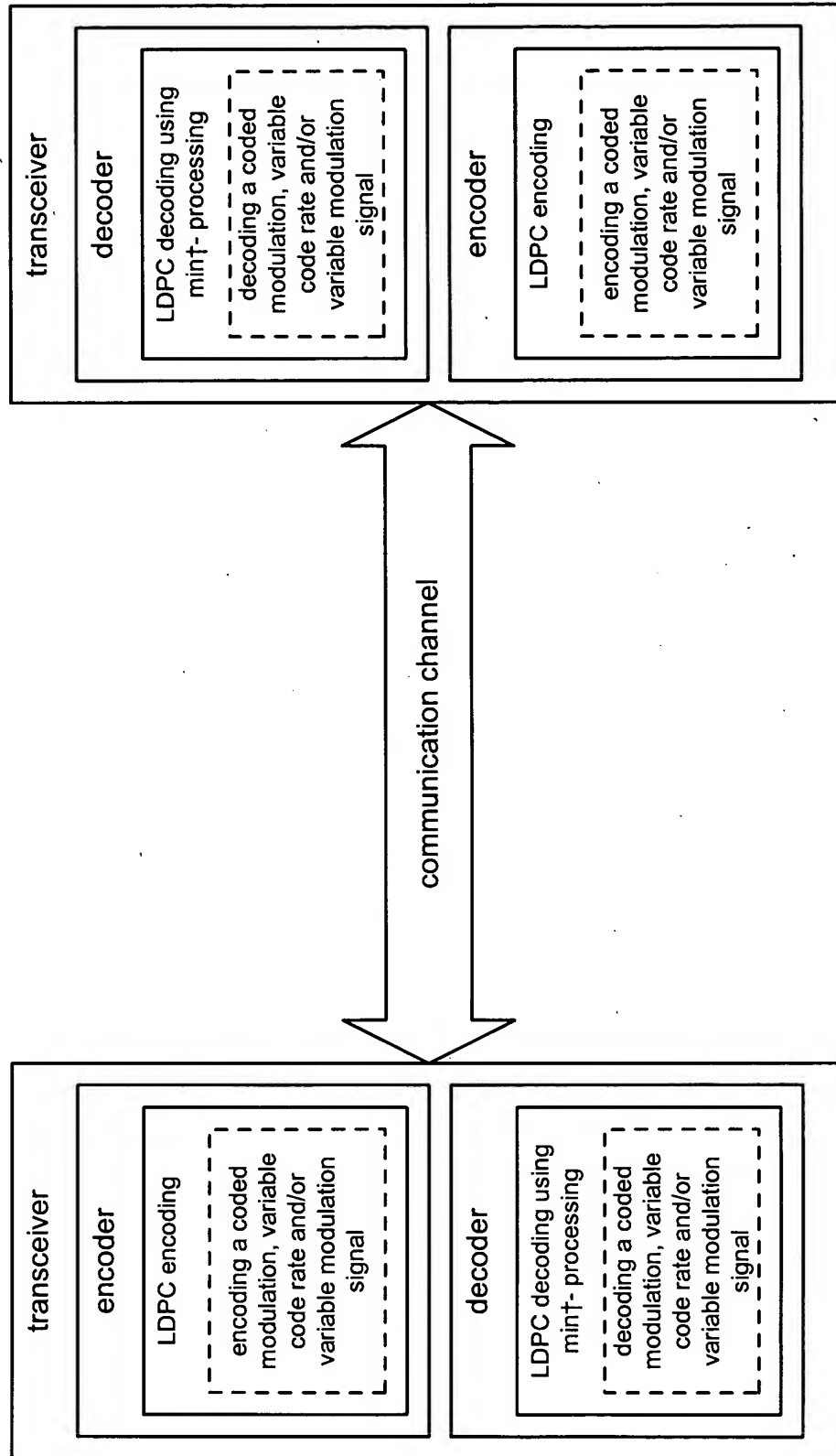


bi-directional point-to-point radio communication system

Fig. 8

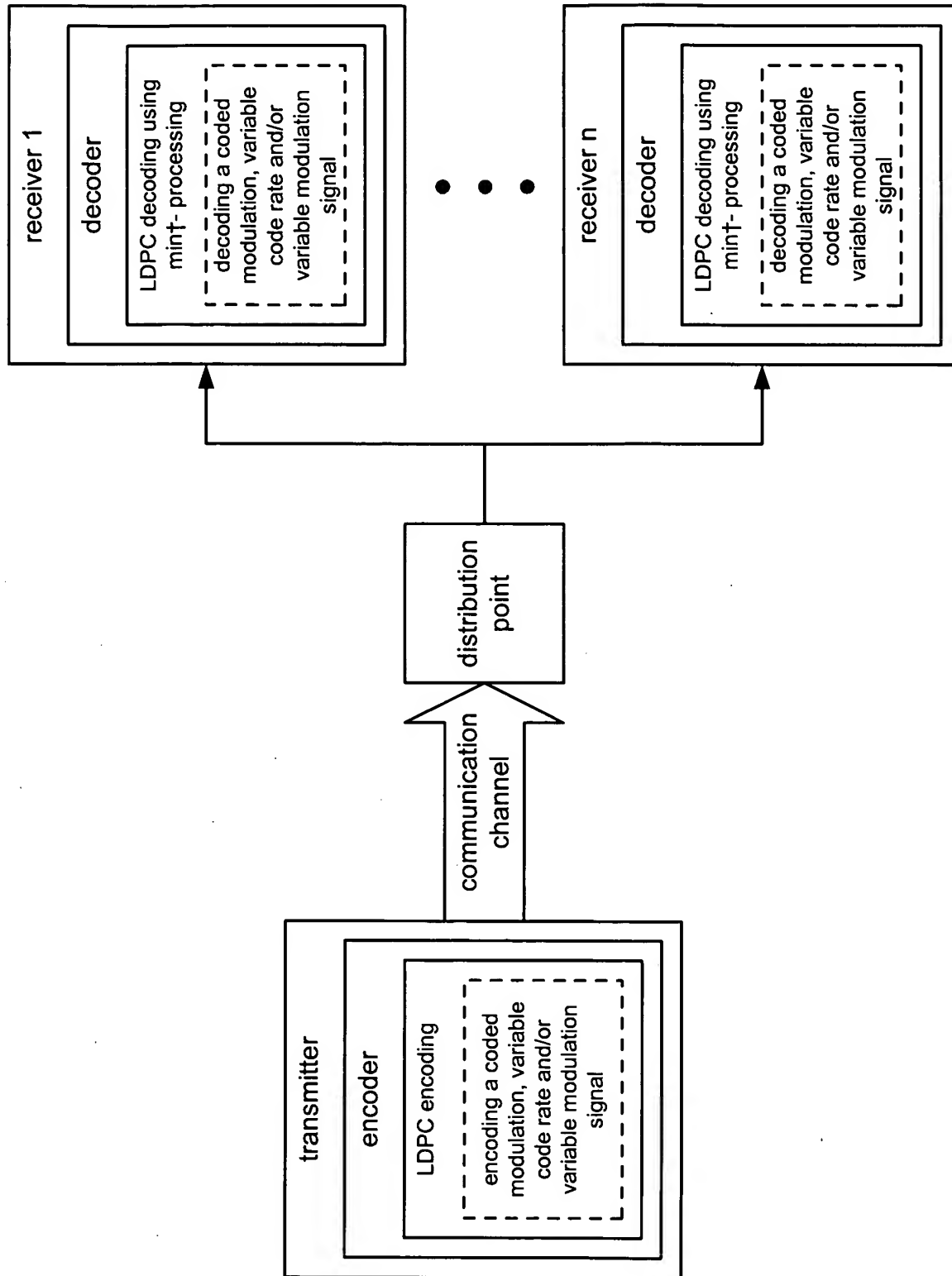


uni-directional communication system
Fig. 9



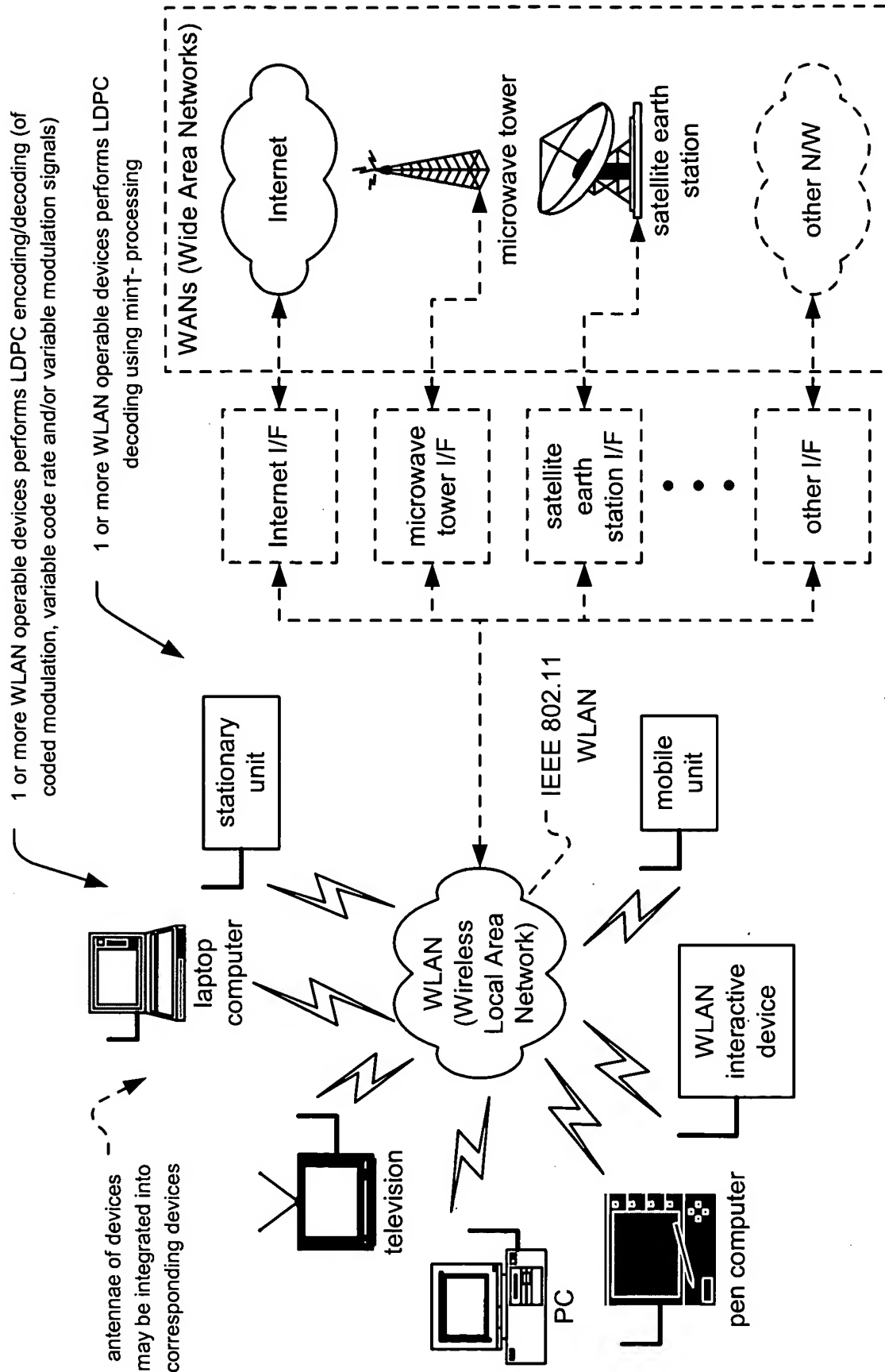
bi-directional communication system

Fig. 10



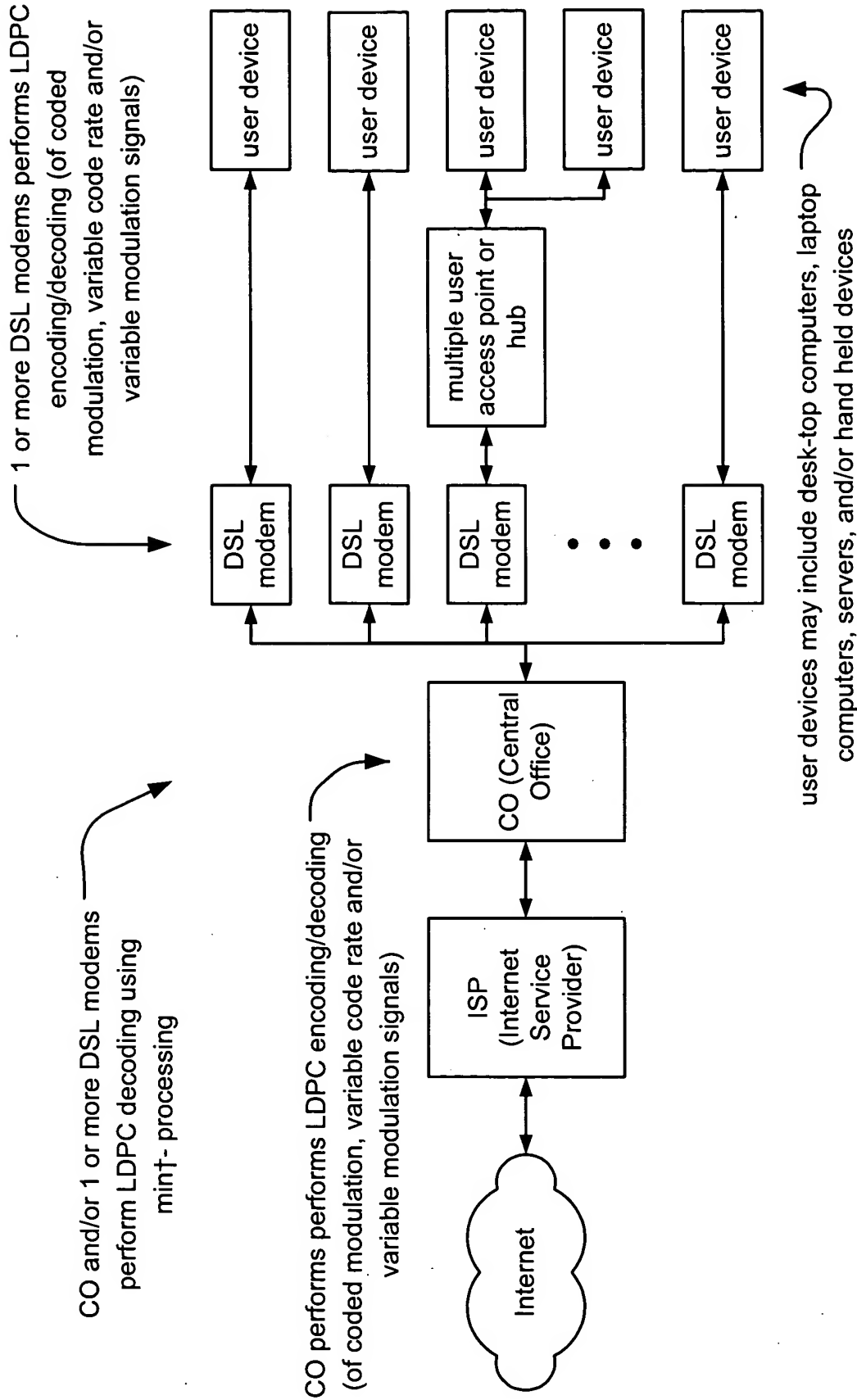
one to many communication system

Fig. 11



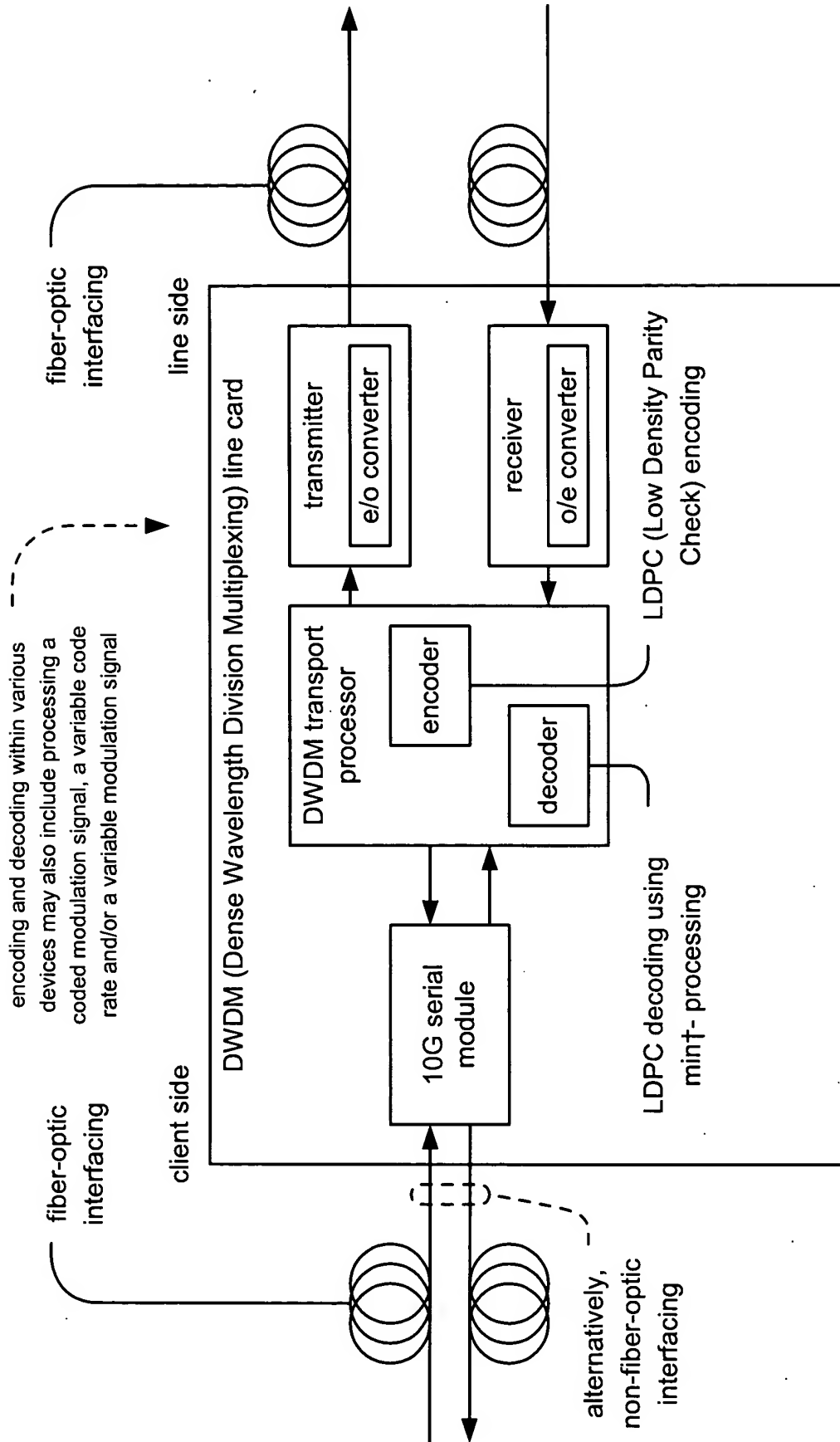
WLAN (Wireless Local Area Network) communication system

Fig. 12



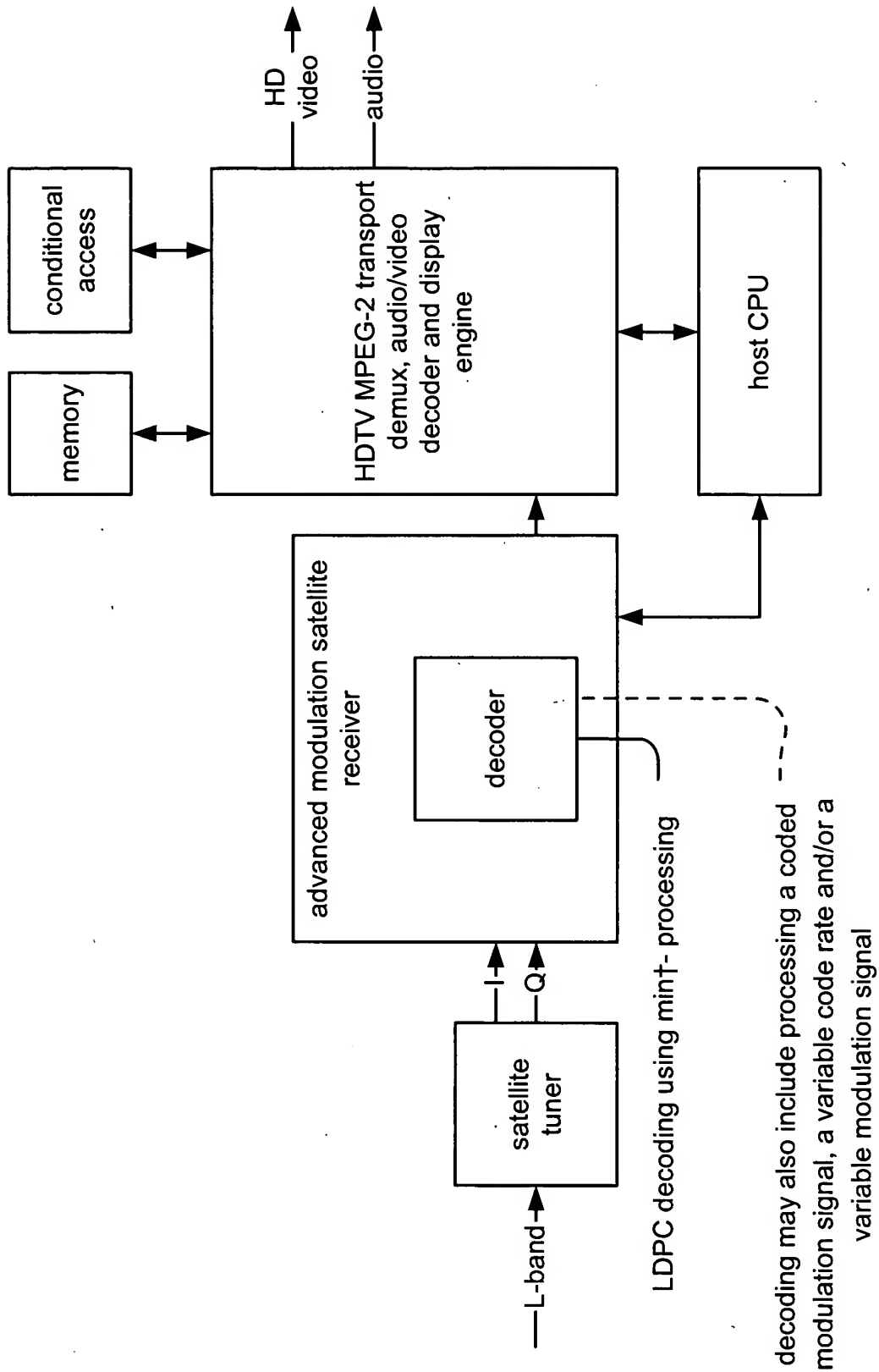
DSL (Digital Subscriber Line) communication system

Fig. 13



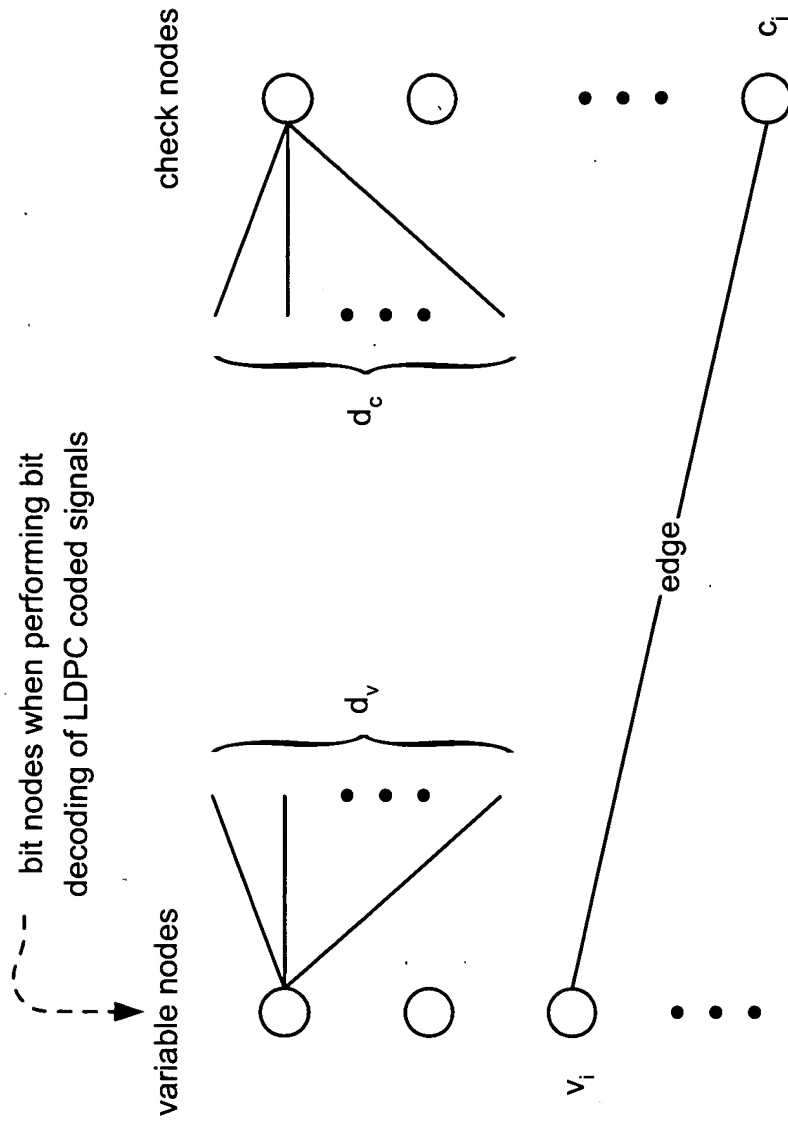
fiber-optic communication system

Fig. 14



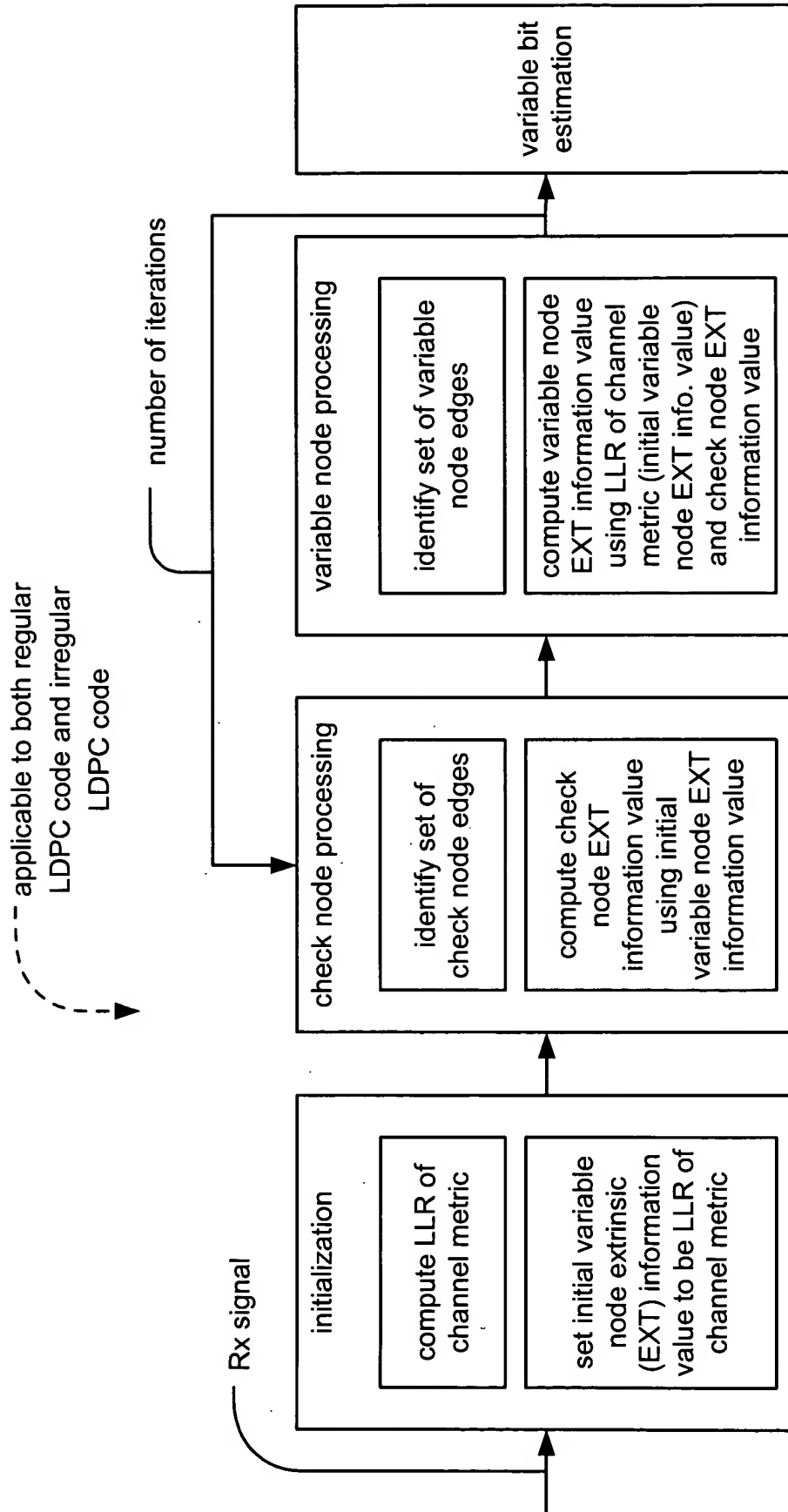
satellite receiver STB (Set Top Box) system

Fig. 15



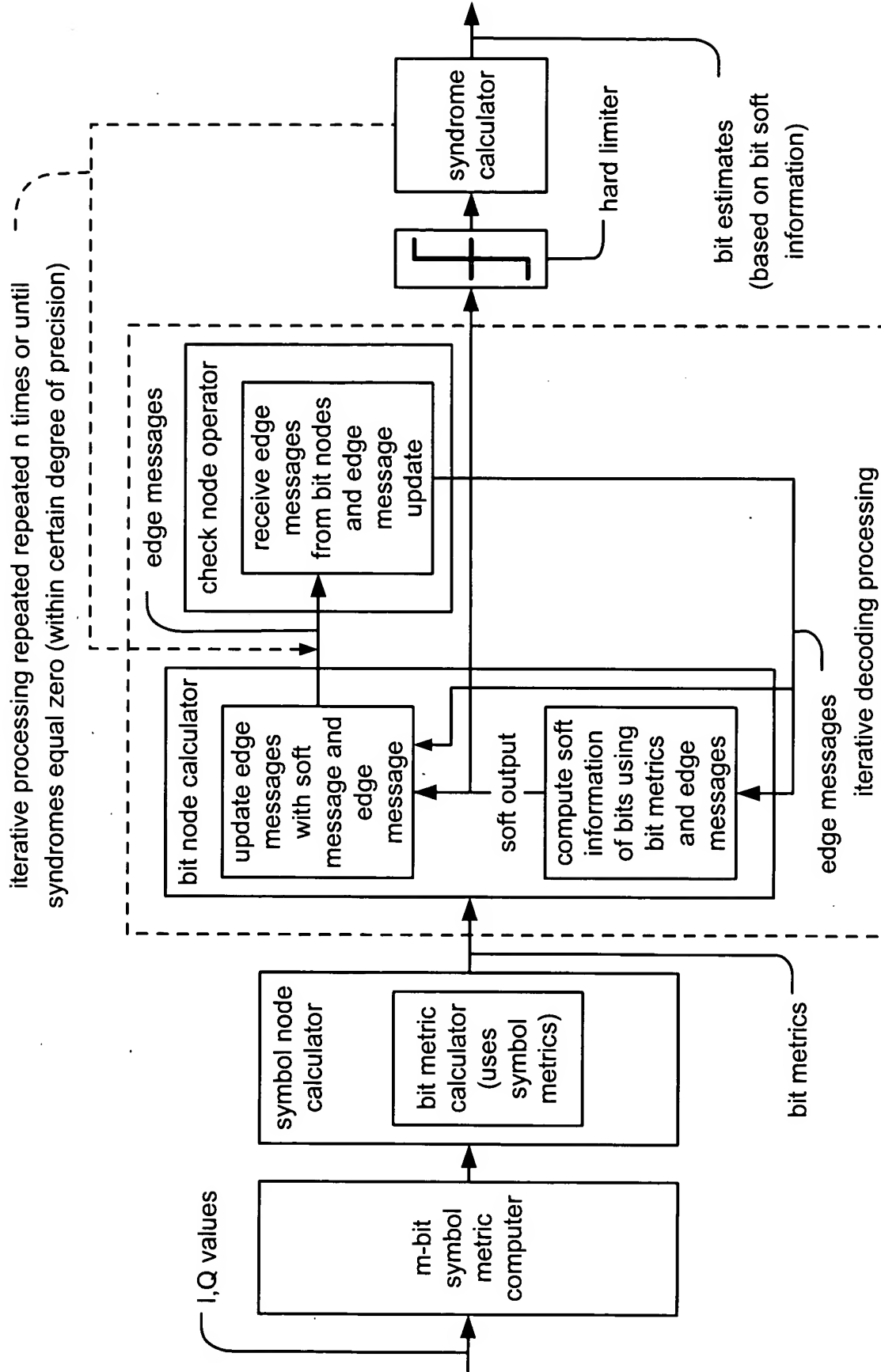
LDPC (Low Density Parity Check) code bipartite graph

Fig. 16



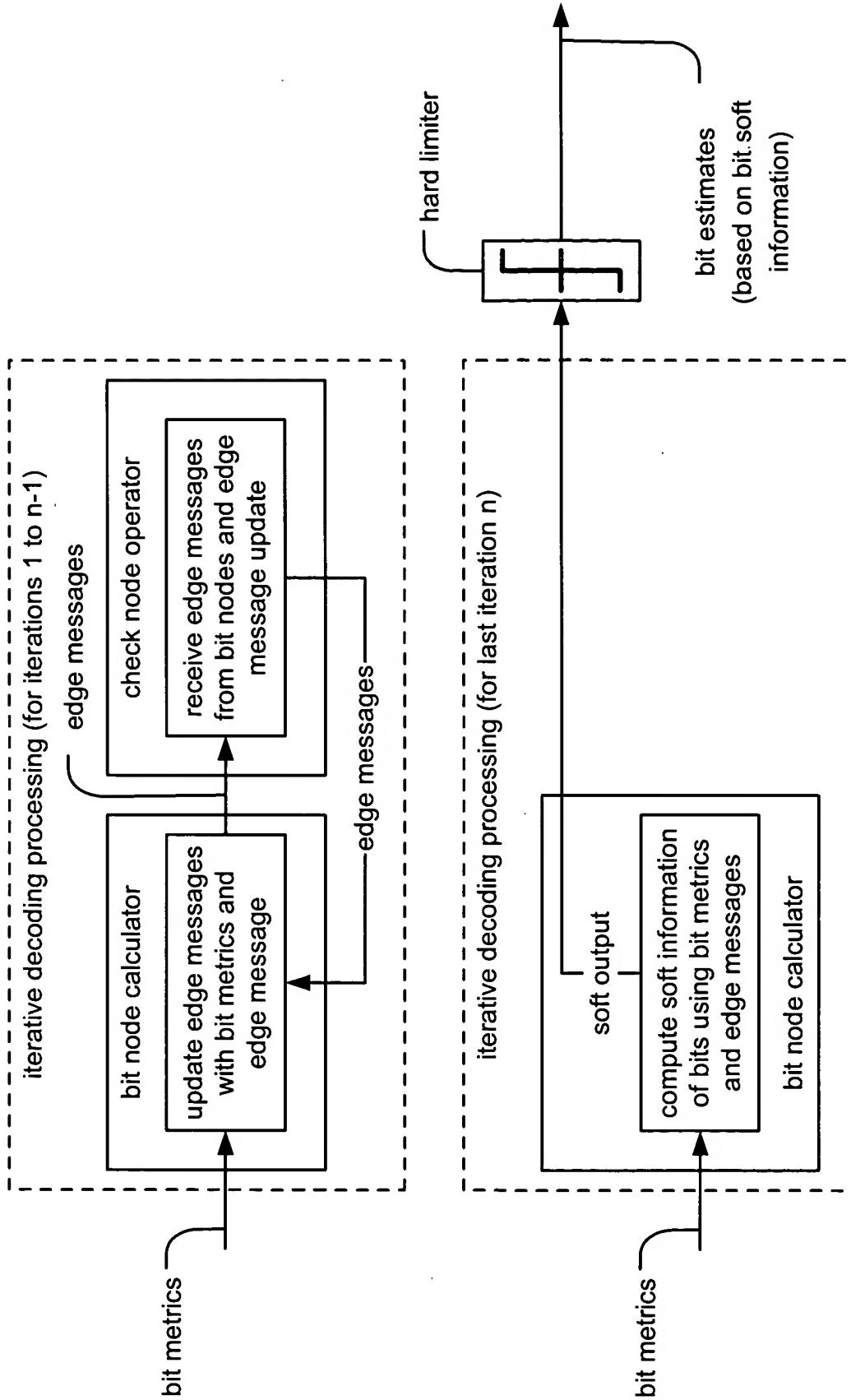
LDPC (Low Density Parity Check) code LLR (Log-Likelihood Ratio) decoding functionality

Fig. 17



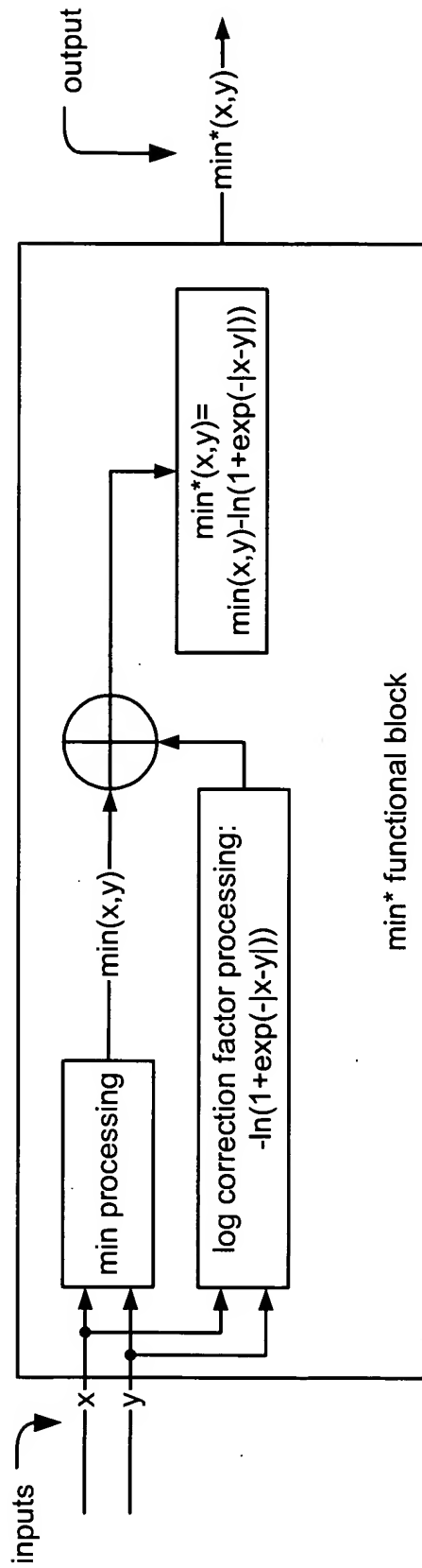
LDPC (Low Density Parity Check) decoding functionality using bit metric

Fig. 18



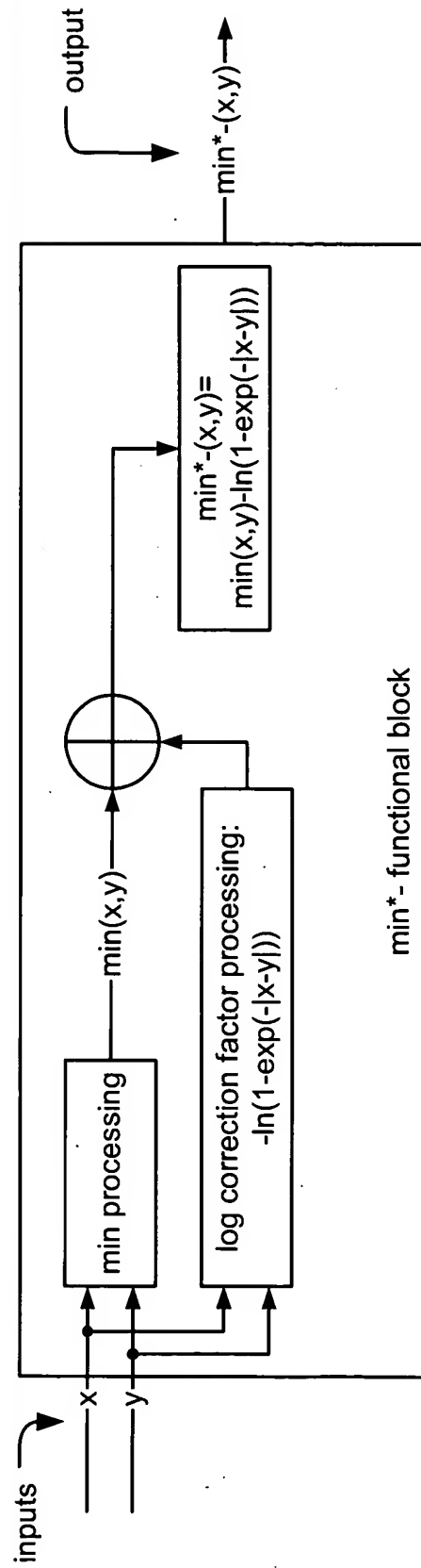
alternative LDPC decoding functionality using bit metric (when performing n number of iterations)

Fig. 19



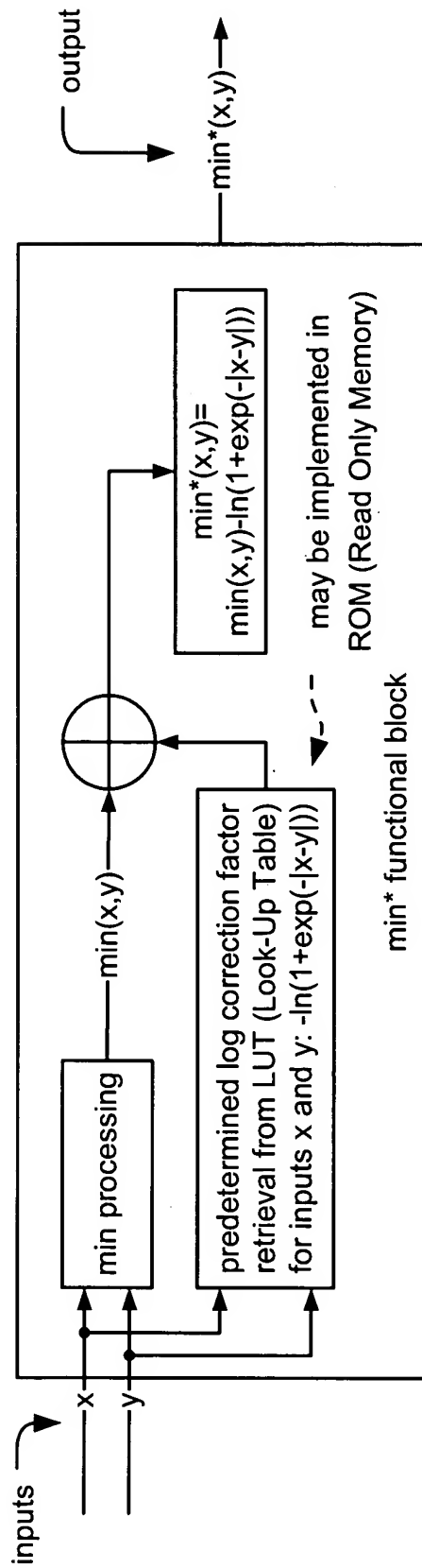
processing of min* functional block (performs operation of min* operator)

Fig. 20A



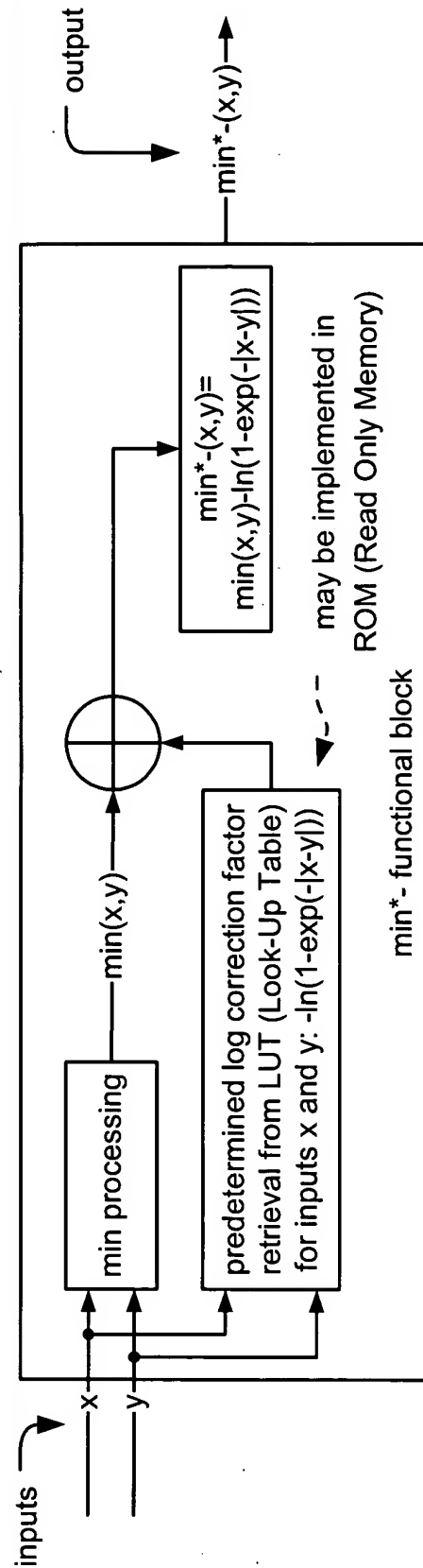
processing of min* - functional block (performs operation of min* - operator)

Fig. 20B



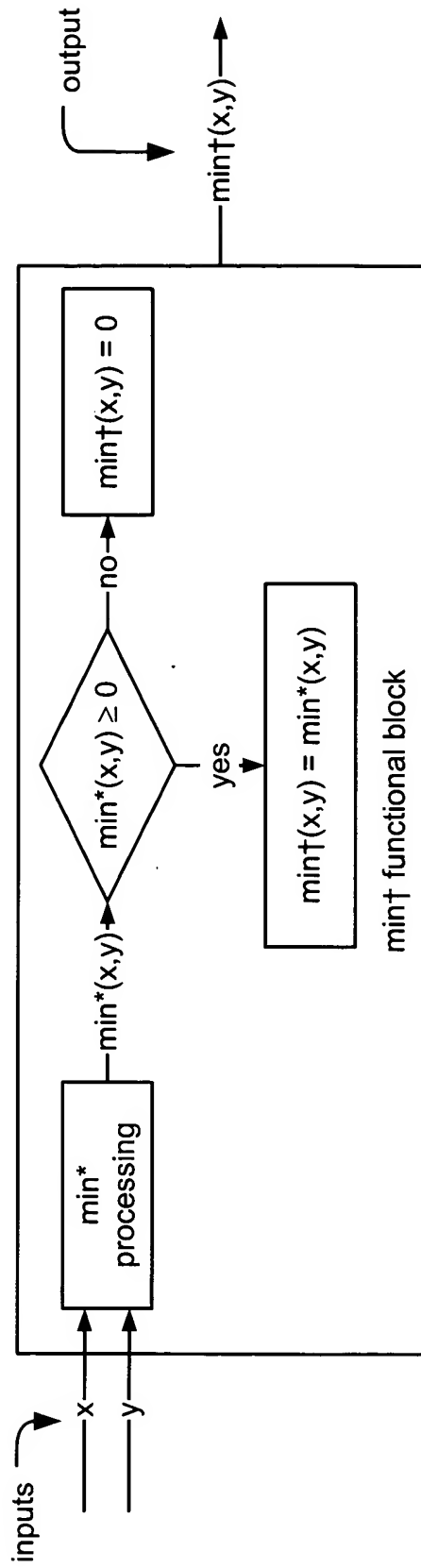
processing of \min^* functional block (performs operation of \min^* operator)

Fig. 21A



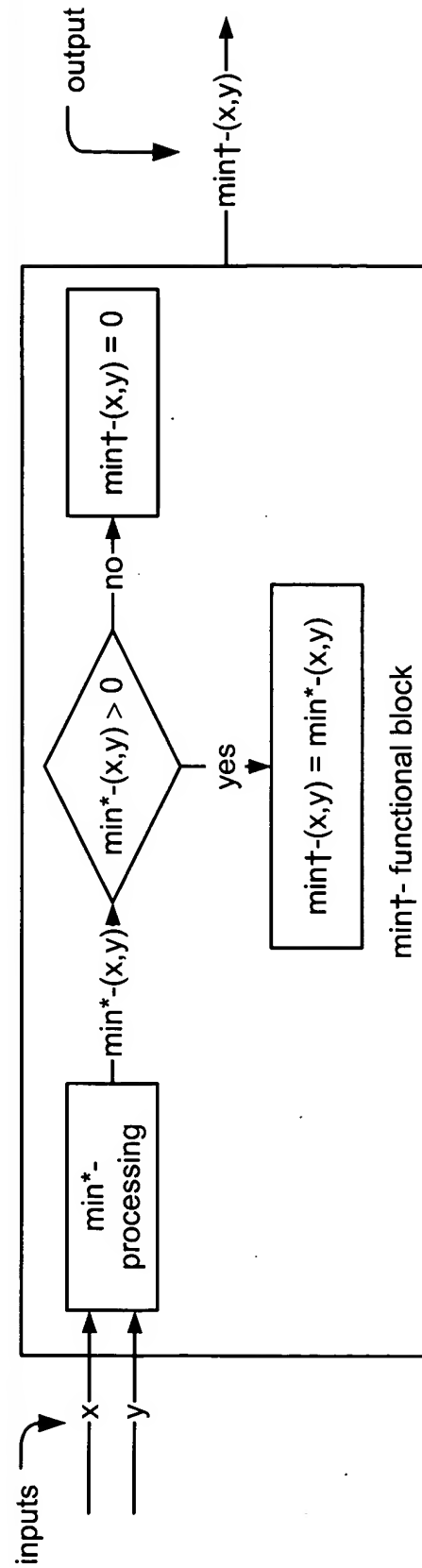
processing of \min^* - functional block (performs operation of \min^* - operator)

Fig. 21B



processing of \min^* functional block (performs operation of \min^* operator)

Fig. 22A



processing of \min^* functional block (performs operation of \min^* operator)

Fig. 22B

edge messages, $L_c(e_i)$, sent from initialization (or from C2B :check-to-bit step (e.g., check node operator or check node processing))

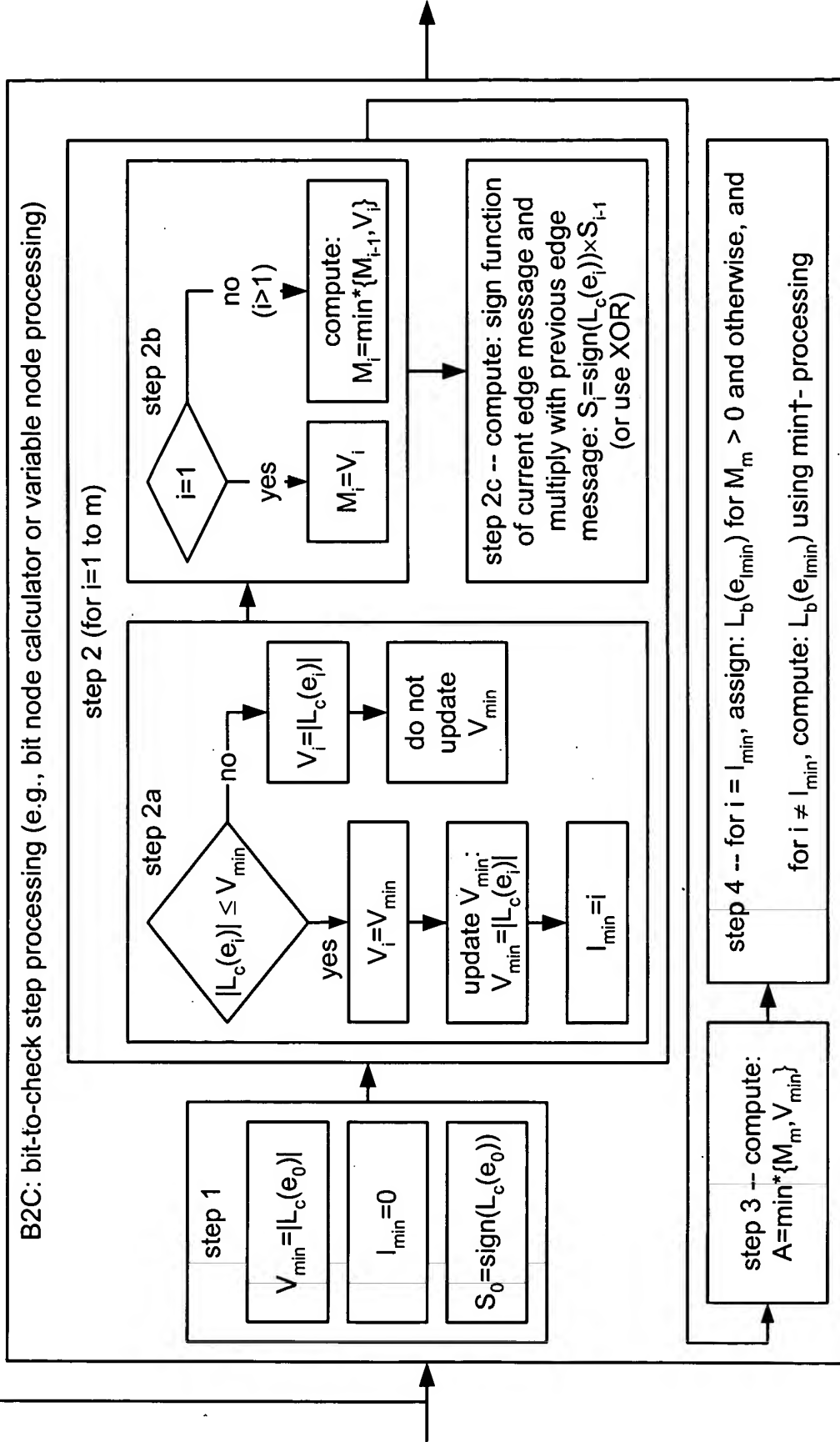
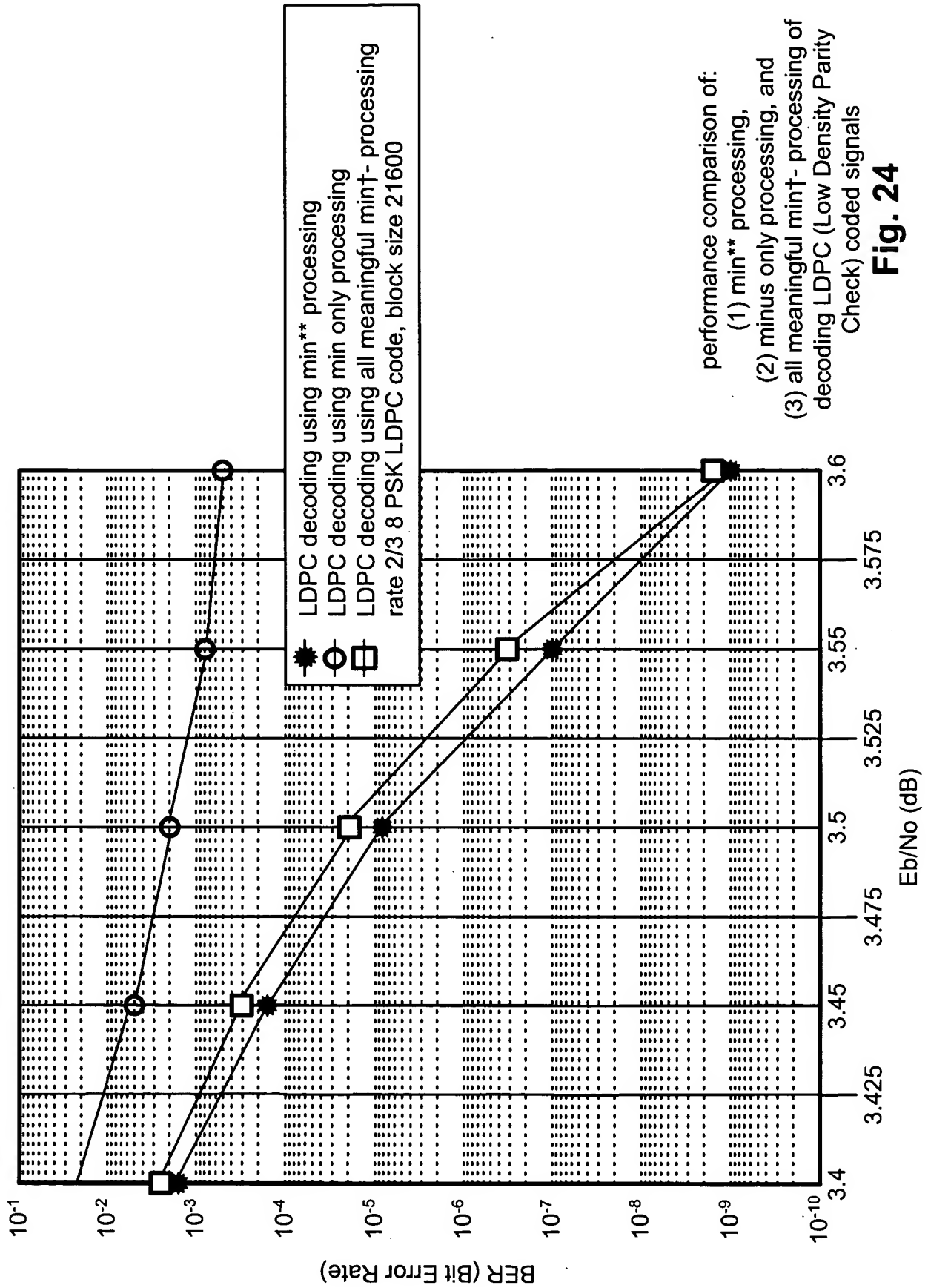
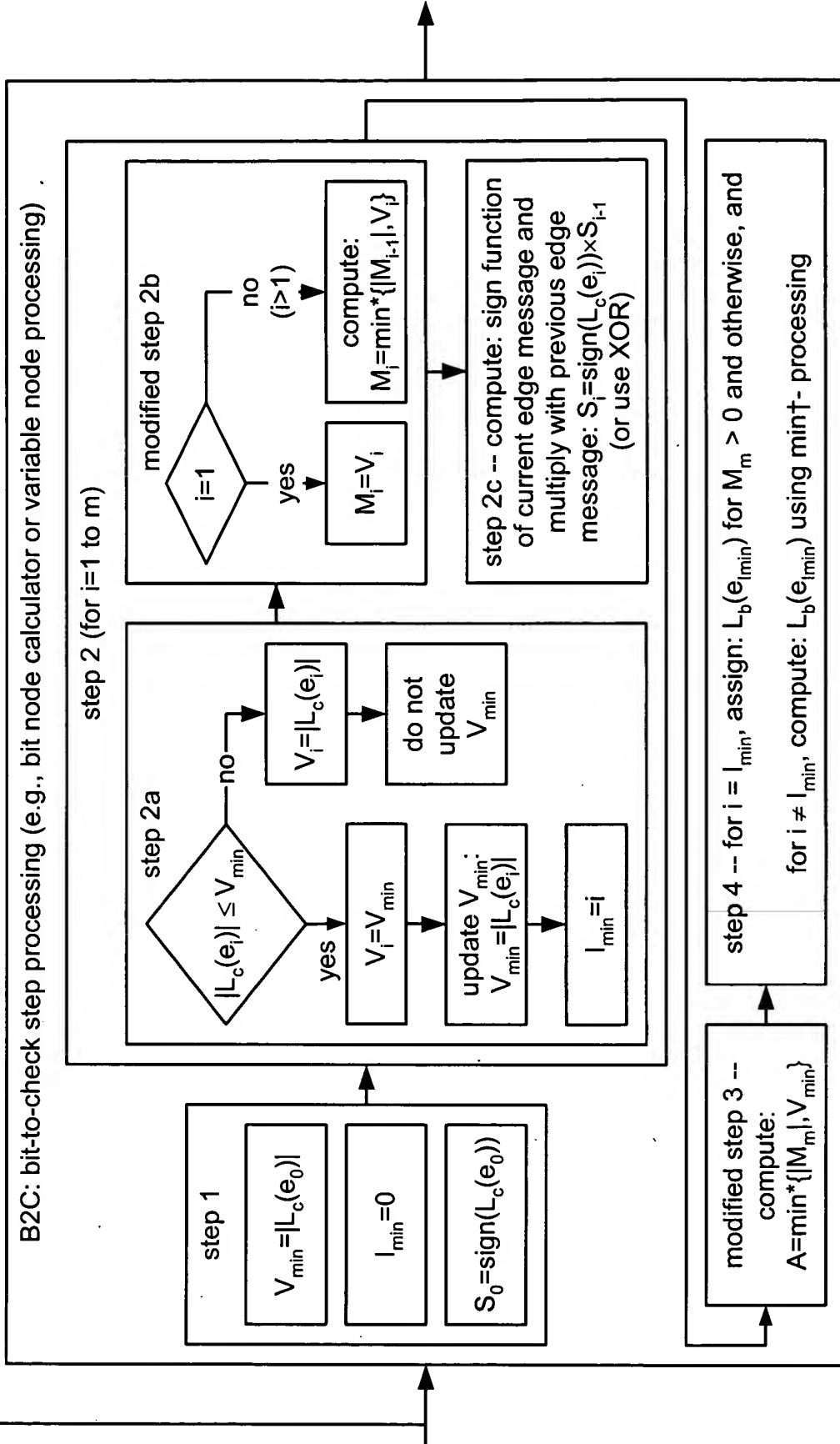


Fig. 23

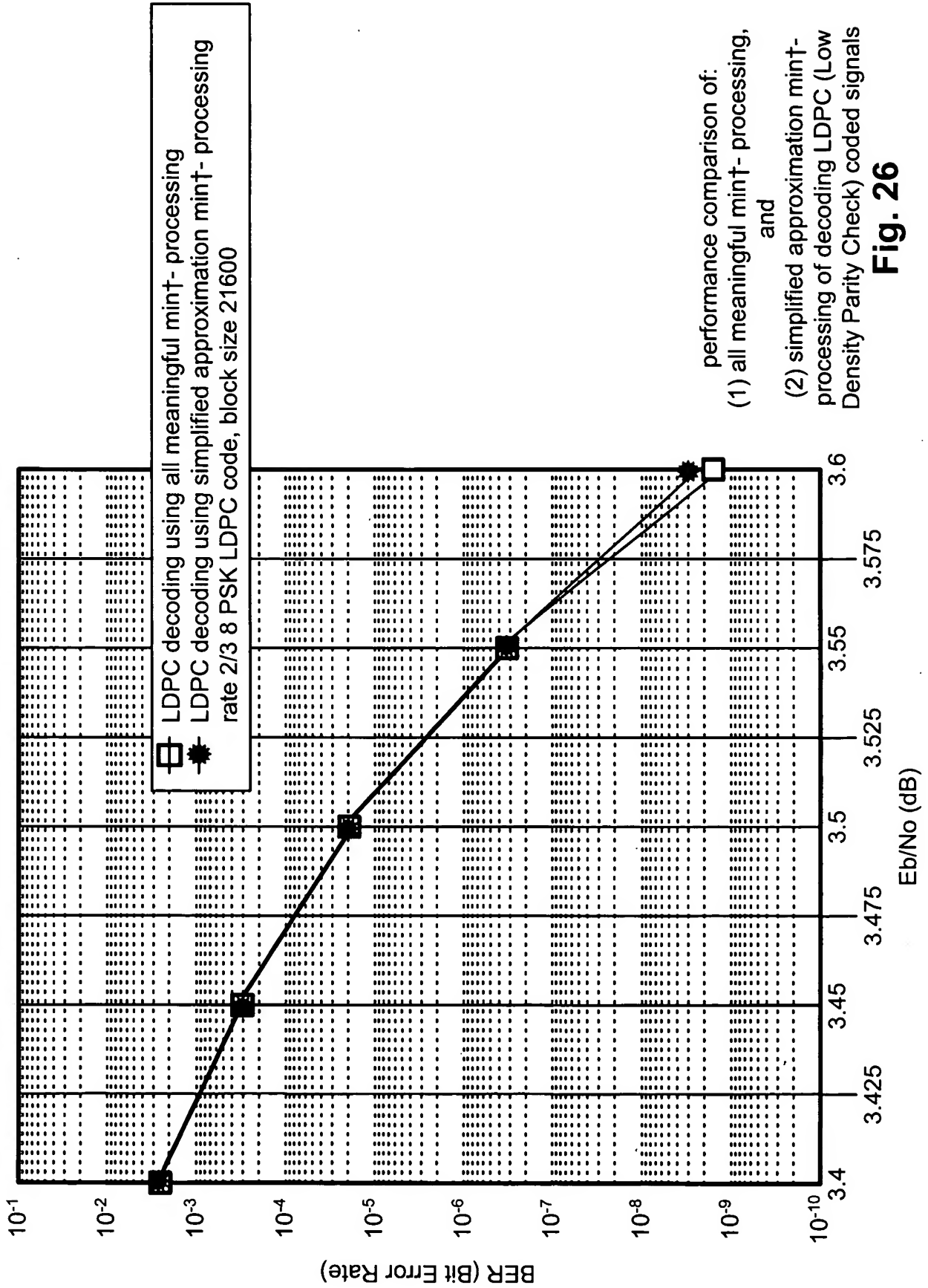


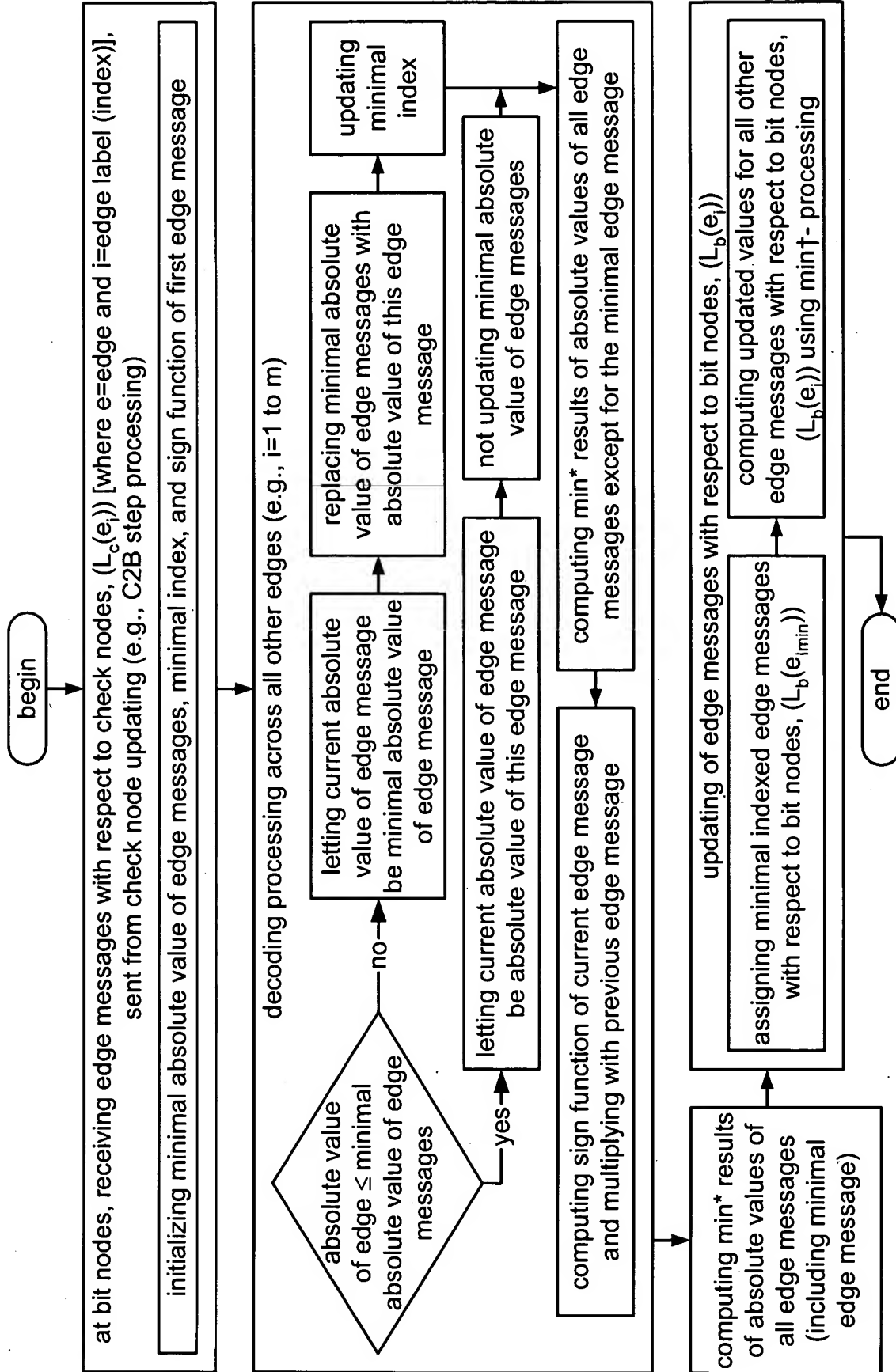
edge messages, $L_c(e_i)$, sent from initialization (or from C2B: check-to-bit step (e.g., check node operator or check node processing))



all meaningful LDPC code decoding using simplified approximation mint- processing (B2C step processing)

Fig. 25





method for performing updating edge messages with respect to bit nodes (B2C: bit-to-check step processing)

Fig. 27